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EXAMINER				
SEYE, ABDOU K				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/701,527

**Applicant(s)**

BAUMBERGER, DANIEL

**Examiner**

Abdou Karim Seye

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-8, 10-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10-15, 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1, 3-8, 10-15 and 17-20 are pending in this application.

#### ***Claim Objections***

2. Claim 8 is objected to because of the following informalities:

Claim 18 contains this expression " for "The examiner considers the following expression " for " as a typographical error from the applicant.

A correction is required.

#### **Claim Rejections - 35 USC § 112**

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

4. Claims 1, 3-5, 8, 10-14 and 15, 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack antecedent basis:

- (i) " the page" , Claims 5, 13 and 19.

B. The following claims language is unclear and indefinite:

As per claim 1, line 5, it is not clearly understood what is meant by "the virtual machine in an address space" since, as it's known in the art that only virtual machine data/code can be maintained in memory space.

As per claim 8, line 15-16, it is not clearly understood what is meant by "the virtual machine in an address space" since, as it's known in the art that only virtual machine data/code can be maintained in memory space.

As per claim 15, line 5-6, it is not clearly understood what is meant by "the virtual machine in an address space" since, as it's known in the art that only virtual machine data/code can be maintained in memory space.

### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-7 and 15, 16-20, are rejected under 35 U.S.C. 103 (a) as being unpatentable over Vasudeva (US 20040267691) in view of Holmberg (US 6345351).

7. As to claims 1 and 15, Vasudeva teaches the invention substantially as claimed a method and product comprising:

utilizing first and second virtual machine queues ( 209 and 224, FIG. 2C; paragraph 41 and 44 ) associated with respective first and second virtual machines (204 and 227, FIG. 2C) to communicate between the virtual machines (paragraph 49); and

updating a page table (218; FIG. 2B) by a processor (FIG. 2B; paragraph 48, processor) by placing a page (paragraph 39; where the information collected is a placed in a page) in address space (paragraph 39 and 41)..

8. Vasudeva does not explicitly teach a page associated with the first virtual machine in an address space associated with the second virtual machine.

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9. Holmberg discloses a page associated with a Job/first virtual machine in an address space (601, FIG. 6a ) associated with a Job2/ second virtual machine (col. 14, lines 56-59).

10. It would be obvious to a person of ordinary skill in the art at the time the invention was made to modify Vasudeva's invention with holmberg's to provide a page associated with the first virtual machine in an address space associated with the second virtual machine for updating a page table. One would be motivated to have a page in an address space associated with a first and second virtual machine in order to maintain the integrity of page data stored in memory/database tables.

11. As to claims 3 and 17, Vasudeva teaches, wherein updating includes: placing at least one of data and an address associated with the page into a first virtual machine control structure (216, FIG. 2C, paragraph 42, where the control module (216) is the first virtual control structure ) associated with the first virtual machine; exiting the first virtual machine; placing the at least one of data and address into the second virtual machine queue ; and dequeueing the second virtual machine queue ( paragraph 41 and 46, "transferring the data from the queue", where this claimed element of Vasudeva's reference meet the claimed limitation of the claim ).

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12. As to claims 4 and 18, Vasudeva teaches , wherein dequeuing includes: reading the at least one of data and address into a second virtual machine control structure associated with the second virtual machine; and storing the at least one of data and address into the address space associated with the second virtual machine (paragraph 39; "reads and writes data" where this claimed element of Vasudeva's reference meet the claimed limitation of the claim).

13. As to claims 5 and 19, Vasudeva teaches, wherein the page contains a message and the method further comprises: processing the message within the second virtual machine (paragraph 39).

14. As to claim 6, Vasudeva teaches, wherein exiting occurs immediately after placing the at least one of data and an address associated with the page into the first virtual machine control structure (paragraph 46).

15. As to claims 7 and 20, Vasudeva teaches, further comprising: conveying identification information associated with the first and second virtual machines between the first and second virtual machines via the first and second virtual machine queues (paragraph 39; where the claimed elements "process" and "identification" of Vasudeva's reference meet the claimed limitation of the claim ).

16. Claims 8, 10-14 are rejected under 35 U.S.C. 103 (a) as unpatentable over Vasudeva (US 20040267691) in view Waldspurger (US 7412492) of and further in view of Holmberg (US 6345351).

17. As to claim 8, Vasudeva teaches the invention substantially as claimed a computer system comprising:

at least one hardware processor (236, FIG. 2A); and

a computer readable memory (268, FIG. 2A) comprising program

instructions, executable by the at least one processor, for:

first and second virtual machines (204 and 227, FIG. 2C); a first virtual machine control structure (216, FIG. 2C) associated with the first virtual machine, the first virtual machine control structure having a first virtual machine queue (209, FIG. 2C) adapted to enqueue and dequeue a message;

a second virtual machine control structure (232, FIG. 2C) associated with the second virtual machine, the second virtual machine control structure (232, FIG. 2C) having a second virtual machine queue (224, FIG. 2C) adapted to enqueue and dequeue a message.

18. Vasudeva does not explicitly teach a virtual machine monitor coupled to the first and second virtual machines , the virtual machine monitor adapted to



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supervise communication between the first and second virtual machines and update a page table by a processor by placing a page in an address space.

19. Waldspurger discloses a virtual machine monitor (500, FIG. 2; col. 17, lines 19-20) coupled to the first and second virtual machines, the virtual machine monitor adapted to supervise communication between the first and second virtual machines and update a page table in by a processor by placing a page in an address space (FIG. 2, col. 17, lines 15-25; col. 17, lines 49-52 and col. 18, lines 1-33).

20. It would be obvious to a person of ordinary skill in the art at the time the invention was made to modify Vasudeva's invention with Waldspurger's to provide a virtual machine monitor coupled to the first and second virtual machines and the first and second virtual machine control structures and to supervise communication between first and second virtual machine and update a page table in by a processor by placing a page in an address space . One would be motivated to include a virtual machine monitor in order to provide efficient use of resource by clients (applications, users, etc.)

21. The combination of Vasudeva in view of Waldspurger as discussed above shows the limitation claimed, except they do not specifically discloses a

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page associated with the first virtual machine in an address space associated with the second virtual machine.

22. Holmberg discloses a page associated with a Job/first virtual machine in an address space (601, FIG. 6a ) associated with a Job2/ second virtual machine ( FIG. 6a; col. 14, lines 56-59).

23. It would obvious to a person of ordinary skill in the art at the time the invention was made to not only include a virtual machine monitor coupled to the first and second virtual machines , the virtual machine monitor adapted to supervise communication between the first and second virtual machines , but also to include a page associated with the first virtual machine in an address space associated with the second virtual machine as taught by Holmberg in the system of Vasudeva modified by Waldspurger in order to maintain the integrity of data stored in memory address space.

24. As to claims 10-12, they are rejected for the same reasons as 3 above .

25. As to claim 13, it is rejected for the same reasons as claim 5 above.

26. As to claim 14, it is rejected for the same reasons as claim 7 above.

***Conclusion***

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdou Karim Seye whose telephone number is 571-270-1062. The examiner can normally be reached on Monday - Friday 8:30 - 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Li B. Zhen/  
Primary Examiner, Art Unit 2194

/Abdou Karim Seye/  
Examiner, Art Unit 2194